Use Attainability Analysis

for

WBID 1305 Mulberry Creek

Submitted by
BWR

July 11, 2007

Submitted to:
Missouri Department of Natural Resources
Division of Environmental Quality
Water Protection Program

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet A - Water Body Identification

I. Water Body Information (For water body being surveyed)

Water Body Name (from USGS 7.5' quad):	MULBERRY CREEK
Missouri Water Body Identification (WBID) Number:	1305
8-digit HUC: 10290102	County: BATES
Upstream Legal Description (from Table H):	MOUTH
Downstream Legal Description(from Table H):	19, 38N, 30W
Number of sites evaluated	6 CROSS SECTIONS
List all sites numbers, listed consequently upstream to downstream:	6, 3, 2, 1, 5, 4

Site Locations Map(s): Attach a map of entire segment with assessment sites clearly labeled. Mark any other items that may be of interest.

II. Subegmentation (fill this section out only in cases where subesgmentation is being proposed)

Upstream Coordinates: UTM X Y		Downstream Coordinates: UTM X Y	
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)			
Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			
GPS Data Quality		Interpolation Data Quality	
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____	
EPE	± _____ Feet or ± _____ Meters		
PDOP		± _____ Feet or ± _____ Meters	

III. Discharger Facility Information (list all permitted dischargers on the stream)

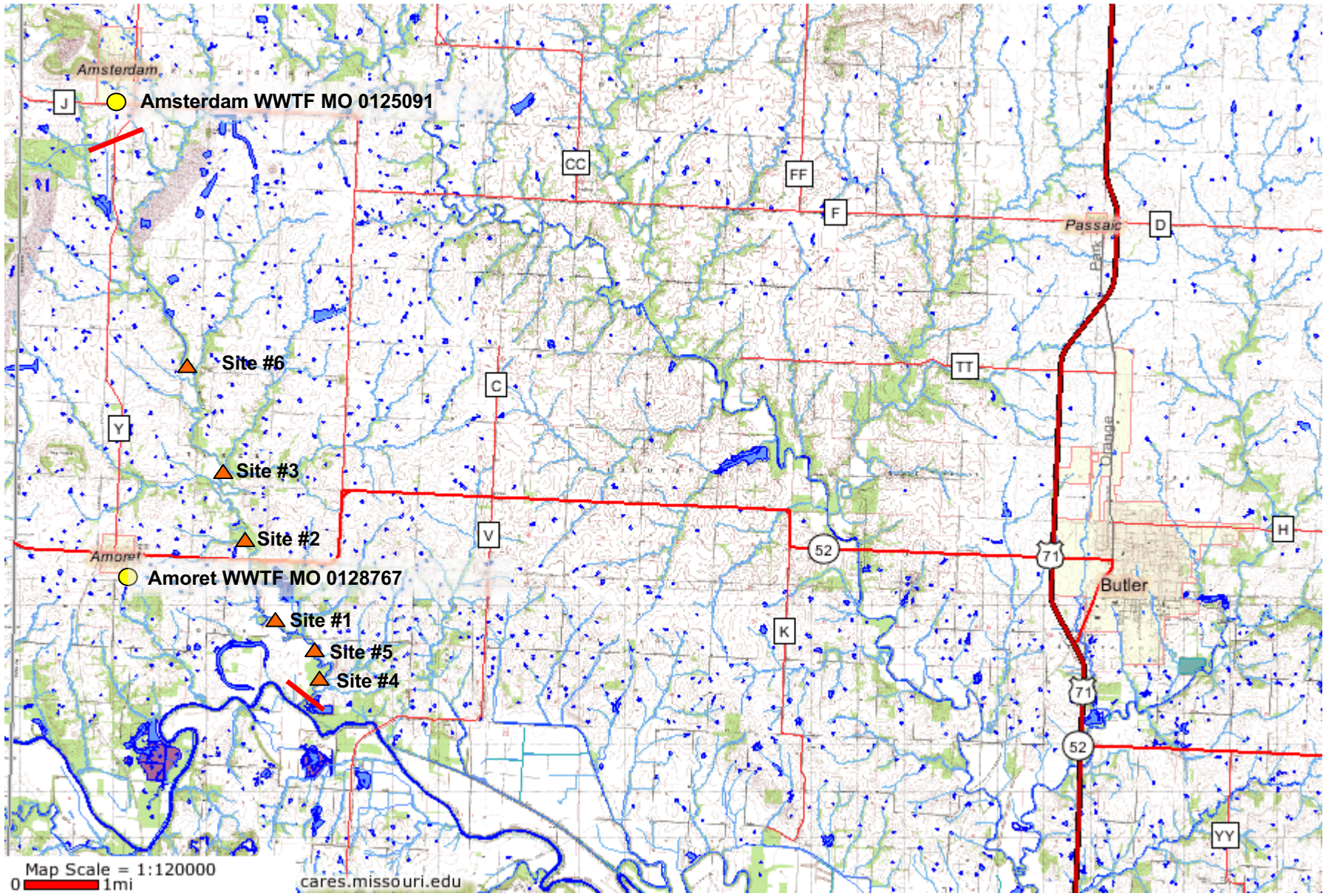
Discharger Facility Name(s):	AMSTERDAM WWTF, AMORET WWTF
Discharger Permit Number(s):	MO0125091 MO0128767

IV. UAA Surveyor (please print legibly)

Name of Surveyor ALEX BARTLETT	Telephone Number: 816.363.2696
Organization/Employer: BWR CORP.	
Position: ENVIRONMENTAL SCIENTIST	

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Signed: _____ **Date:** 6/25/07



BWR
Right in the Center

Mulberry Creek
WBID #1305

N

WBID# 1305
Site# 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(must be completed for each site)

Date & Time: 12 NOON 5/18/07	Site Location Description (e.g., road crossing): UPSTREAM FROM BRIDGE CROSSING ON COUNTY ROAD.
Personnel (Data Collectors): Mark Griffith	
Current Weather Conditions: Sunny - 75° F	Facility Name: Amsterdam WWTF, Amoret WWTF
Weather Conditions for Past 10 days:	Permit Number: MO D125091, MO D128767

Drought Conditions?: No drought ☒; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 38.2392 Y: 94.5413

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± _____ Feet or ± _____ Meters	± _____ Feet or ± _____ Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* when conducting interviews.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☒ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☒ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments:

% CHANNEL FEATURE
RUN = 100%
RIFFLE =
POOL =

*** Page Two – Data Sheet B for WBID #** 1305 : SITE #1

Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Substrate*: (These values should add up to 100%.)

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
		5		95	

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

NONE OBSERVED

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: Brown (turb
Bottom Deposit:	☐ Sludge	☐ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach any additional comments () to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: [signature] Date of Survey: 5/18/07

Organization: BWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 1

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
A						
Transect #1	wetted width 9.8 m	0.1 (0.2)			1 Channel Feature:	
start @ L. Bank		0.2			2	
		0.3			3	
	measurements 0.98 m apart	0.3			4 Dissolved Oxygen	
		0.3			5	
		0.3			6 ____ ppm %	
		0.3			7 ____	
		(0.4)			8 7.1 mg/L (17.1°C)	
		0.3			9	
		0.3			10	
					11	
B						
Transect #2 (Run)	wetted width 4.5 m	0.1 (0.1)			12 Channel Feature:	
		0.3			13	
		0.3			14	
start @ L. Bank	measurements 0.95 m apart	0.4			15 Dissolved Oxygen:	
		0.4			16	
		(0.5)			17 7.1 ppm mg/L %	
		0.4			18 ____	
• Firm Mud Substrate		0.3			19	
		0.2			20	
		0.1			21	
					22	
C						
Transect #3	wetted width 9.4 m	0.1 (0.2)			23 Channel Feature:	
		0.3			24	
		0.3			25	
	measurements 0.94 m apart	0.3			26 Dissolved Oxygen	
		0.3			.	
		0.3			. 7.2 ppm mg/L %	
		(0.5)			. ____	
		0.5			n	
		0.2				
		0.2				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 5/18/07

Organization: BWR COEP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 1

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
D Transect # 1	wetted width 11.1 m	0.1 (0.2)			1 Channel Feature:	
2		0.3			2	
3		0.3			3	
4	measurements	0.3			4 Dissolved Oxygen	
5	___ m	0.3			5	
6	apart	0.4			6	
7		(0.4)			7 DO = 7.1	ppm mg/L
8		0.4			8	
9		0.3			9	
10 R		0.3			10	
					11	
Transect # 1	wetted width 11.3 m	0.1 (0.1)			12 Channel Feature:	
2 E		0.3			13	
3		0.4			14	
4	measurements	0.4			15 Dissolved Oxygen:	
5	___ m	0.7			16	
6	apart	0.6			17	
7		(0.6)			18 DO = 7.1	ppm mg/L
8		0.6			19	
9		0.5			20	
10		0.2			21	
					22	
Transect # 1	wetted width 10.0 m	0.1 (0.1)			23 Channel Feature:	
2		0.4			24	
3 F		0.5			25	
4	measurements	0.6			26 Dissolved Oxygen	
5	___ m	0.7			.	
6	apart	0.7			.	
7		(0.8)			DO = 7.1	ppm mg/L
8		0.7			n	
9		0.4				
10		0.1				

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Signed: _____ **Date:** 5/18/07

Organization: BWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 1

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A						
1	wetted width	0.1 (0.1)			1 Channel Feature:	
2	10.7 m	0.4			2	
3		0.6			3	
4	measurements	0.6			4 Dissolved Oxygen	
5	m	0.7			5	
6	apart	(0.8)			6 DO - 7.1	~~ppm~~ mg/L %
7		0.8			7	
8		0.6			8	
9		0.4			9	
10		0.1			10	
					11	
Transect A						
1	wetted width	0.1 (0.1)			12 Channel Feature:	
2	9.1 m	0.2			13	
3		0.3			14	
4	measurements	0.4			15 Dissolved Oxygen:	
5	m	0.5			16	
6	apart	(0.6)			17 DO - 7.1	~~ppm~~ mg/L %
7		0.4			18	
8		0.4			19	
9		0.2			20	
10		0.1			21	
					22	
Transect I						
1	wetted width	0.1 (0.1)			23 Channel Feature:	
2	9.5 m	0.2			24	
3		0.3			25	
4	measurements	0.3			26 Dissolved Oxygen	
5	m	0.5			.	
6	apart	0.6			. 7.1	~~ppm~~ mg/L %
7		(0.7)			.	
8		0.5			n	
9		0.1				
10		0.1				

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Signed: _____ **Date:** 5/18/07

Organization: BWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # ~~#~~ 1

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect ~~#~~ J 1	wetted width	0.1 (0.1)			1 Channel Feature:	
2	1.5 m	0.3			2	
3		0.3			3	
4	measurements	0.3			4 Dissolved Oxygen	
5	___ m	0.4			5	
6	apart	0.5			6 ___ ppm	
7		(0.5)			7 DO = 7.2 ~~ppm~~ mg/L	
8		0.5			8	
9		0.5			9	
10		0.2			10	
					11	
Transect ~~#~~ K 1	wetted width	0.1 (0.1)			12 Channel Feature:	
2	9.6 m	0.2			13	
3		0.3			14	
4	measurements	0.3			15 Dissolved Oxygen:	
5	___ m	0.4			16	
6	apart	0.4			17	
7		(0.4)			18 DO = 7.1 ~~ppm~~ mg/L	
8		0.4			19	
9		0.4			20	
10		0.2			21	
					22	
Transect C 1	wetted width				23 Channel Feature:	
2	___ m				24	
3					25	
4	measurements				26 Dissolved Oxygen	
5	___ m				.	
6	apart				. ___ ppm	
7					. ___ %	
8					n	
9						
10						

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

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Signed: _____ **Date:** 5/18/07

Organization: BWR CORP. Position: ENV. SCI.

WBID# 1305
Site# 2

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

Date & Time: 5-18-07	Site Location Description (e.g., road crossing): City Highway 52 (North of bridge)
Personnel (Data Collectors):	
Current Weather Conditions: Sunny warm	Facility Name: Amsterdam WWTF / Amoret WWTF
Weather Conditions for Past 10 days: Sunny / some rain	Permit Number: MO 0125091, MO0128767
Drought Conditions?: No drought ☒; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: Y:

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± _____ Feet or ± _____ Meters	± _____ Feet or ± _____ Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* when conducting interviews.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☒ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☒ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments:

% CHANNEL FEATURE
Run = 100 %
RIFFLE =
POOL =

*** Page Two – Data Sheet B for WBID #** 1305 : SITE #2

Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Substrate*: (These values should add up to 100%.)

% Cobble	% Gravel	% Sand	% Silt	100 % Mud/Clay	% Bedrock

70% hard packed mud / 30% loose silt mud/silt

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

NONE OBSERVED

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: brown turbid
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☒ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach any additional comments () to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: _____ Date of Survey: 5/18/07

Organization: BWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 1

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A (Left Bank)	1	wetted width	0.1 (0)			1 Channel Feature:	
	2	8.5 m	0.2			2	
	3		0.3			3	
	4	measurements	0.5			4 Dissolved Oxygen	
	5	0.85 m	0.6			5	
	6	apart	(0.6)			6 DO-7.4	~~ppm~~ mg/L %
	7		0.6			7	
	8		.4			8	
	9		.3			9	
	10		.2			10	
						11	
Transect B	1	wetted width	.1 (0.1)			12 Channel Feature:	
	2	1.0 m	.5			13	
	3		.7			14	
	4	measurements	.7			15 Dissolved Oxygen:	
	5	m	.6			16	
	6	apart	(.8)			17 DO-7.5	~~ppm~~ mg/L %
	7		.9			18	
	8		.7			19	
	9		.6			20	
	10		.2			21	
						22	
Transect C	1	wetted width	.1 (.1)			23 Channel Feature:	
	2	10.3 m	.3			24	
	3		.5			25	
	4	measurements	.6			26 Dissolved Oxygen	
	5	m	(.6)			. DO=7.5	mg/L ~~ppm~~
	6	apart	.6			.	%
	7		.6			.	
	8		.6			n	
	9		.6				
	10		.2				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 5/18/07

Organization: BWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 2

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D	1	wetted width	.1 (0.2)			1 Channel Feature:	
	2	9.4 m	.2			2	
	3		.3			3	
	4	measurements	.4			4 Dissolved Oxygen	
	5	m	.4			5	
	6	apart	(.5)			6 DO 7.5 mg/L	
	7		.3			7 %	
	8		.3			8	
	9		.2			9	
	10		.1			10	
						11	
Transect E	1	wetted width	.1 (0.3)			12 Channel Feature:	
	2	9.6 m	.3			13	
	3		.3			14	
	4	measurements	.4			15 Dissolved Oxygen:	
	5	m	.5			16	
	6	apart	(.5)			17 DO-7.4 mg/L	
	7		.6			18 %	
	9		.5			19	
	9		.3			20	
	10		.3			21	
						22	
Transect F	1	wetted width	.1 (0.2)			23 Channel Feature:	
	2	10 m	.3			24	
	3		.3			25	
	4	measurements	.4			26 Dissolved Oxygen	
	5	.1 m	(.5)			. DO - 7.5 mg/L	
	6	apart	.5			. %	
	7		.4			.	
	8		.4			n	
	9		.3				
	10		.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
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Signed: _____ **Date:** 5/18/07

Organization: BWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 2

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	.1 (0.3)			1 Channel Feature:	
2	10.0 m	.3			2	
3		.4			3	
4	measurements	.6			4 Dissolved Oxygen	
5	1 m	(.8)			5 DO – 7.5 mg/L	
6	apart	.8			6 ____ ppm	
7		.7			7 ____ %	
8		.5			8	
9		.3			9	
10		.1			10	
					11	
Transect H 1	wetted width	.1 (0.3)			12 Channel Feature:	
2	9.8 m	.3			13	
3		.4			14	
4	measurements	.5			15 Dissolved Oxygen:	
5	.98 m	(.6)			16 DO = 7.4 mg/L	
6	apart	.7			17 ____ ppm	
7		.6			18 ____ %	
8		.4			19	
9		.3			20	
10		.1			21	
					22	
Transect I 1	wetted width	.1 (0.1)			23 Channel Feature:	
2	9.0 m	.2			24	
3		.3			25	
4	measurements	.4			26 Dissolved Oxygen	
5	____ m	.6			.	
6	apart	.8			. ppm	
7		(.9)			. DO = 7.3 mg/L	
8		.7			n	
9		.4				
10		.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 5/18/07

Organization: BWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 2

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect 1	wetted width	.1 (0.1)			1 Channel Feature:	
2	8.3 m	.2			2	
3		.3			3	
4	measurements	.3			4 Dissolved Oxygen	
5	.83 m	.4			5	
6	apart	.4			6	ppm
7		(.5)			7 DO- 7.5	~~ppm~~ mg/L
8		.5			8	
9		.4			9	
10		.1			10	
					11	
Transect 2 1	wetted width	.1 (0.2)			12 Channel Feature:	
2	0.7 m	.2			13	
3		.2			14	
4	measurements	.3			15 Dissolved Oxygen:	
5	0.67 m	.3			16	
6	apart	(.3)			17 DO- 7.6	~~ppm~~ mg/L
7		.3			18	
8		.4			19	
9		.4			20	
10		.3			21	
					22	
Transect 1	wetted width				23 Channel Feature:	
2	m				24	
3					25	
4	measurements				26 Dissolved Oxygen	
5	m				.	
6	apart				.	ppm
7					.	~~ppm~~ mg/L
8					n	
9						
10						

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 5/18/07

Organization: BWR CORP. Position: ENV. SCI.

WBID# 1305
Site# 3

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

Date & Time: 2:00 PM 5/18/07	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): Mark & Jon	
Current Weather Conditions: Sunny 75°	Facility Name: Amsterdam WWTF, Amoret WWTF
Weather Conditions for Past 10 days:	Permit Number: MO0125091, MO0128147

Drought Conditions?: No drought ☑; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 38.2700 Y: 94.5600

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± _____ Feet or ± _____ Meters	± _____ Feet or ± _____ Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* when conducting interviews.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☒ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☐ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments:

% CHANNEL FEATURE
Run = 100%
RIFFLE = 0
POOL = 0

*** Page Two – Data Sheet B for WBID #** 1305 : SITE #3

Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Substrate*: (These values should add up to 100%.)

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
				100	

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

NONE OBSERVED

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: Brown turbid
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☒ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach any additional comments () to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: _____ Date of Survey: 5/18/07

Organization: EWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 3

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A start at right bank	wetted width 6.4 m	.1 (0.1)			1 Channel Feature :	
2		.2			2	
3		.3			3	
4	measurements	(.3)			4 Dissolved Oxygen	
5	0.64 m	.3			5	
6	apart	.3			6 7.5	mg/L %
7		.2			7	
8		.2			8	
9		.1			9	
10		.1			10	
					11	
Transect B 1	wetted width	.1 (0.1)			12 Channel Feature :	
2	5.8 m	.2			13	
3		.2			14	
4	measurements	.3			15 Dissolved Oxygen :	
5	.58 m	(.3)			16	
6	apart	.3			17	ppm
7		.2			18	%
8		.2			19	
9		.2			20	
10		.1			21	
					22	
Transect C 1	wetted width	.1 (0.1)			23 Channel Feature :	
2	5.9 m	.2			24	
3		.3			25	
4	measurements	.5			26 Dissolved Oxygen	
5	m	(.5)			.	
6	apart	.5			. 7.6	mg/L %
7		.4			.	
8		.4			n	
9		.3				
10		.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [signature] **Date:** 5/18/07

Organization: BWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 3

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	.1 (.1)			1 Channel Feature:	
2	6.0 m	.3			2	
3		.4			3	
4	measurements	(.4)			4 Dissolved Oxygen	
5	.6 m	.4			5	
6	apart	.4			6 7.5	~~ppm~~ mg/L
7		.3			7 ___	%
8		.2			8	
9		.1			9	
10		<.1			10	
					11	
Transect H 1	wetted width	.1 (.1)			12 Channel Feature:	
2	4.0 m	.2			13	
3		.3			14	
4	measurements	(.3)			15 Dissolved Oxygen:	
5	___ m	.2			16	
6	apart	.2			17 7.6	~~ppm~~ mg/L
7		.2			18 ___	%
8		.1			19	
9		.1			20	
10		<.1			21	
					22	
Transect I 1	wetted width	.1 (.1)			23 Channel Feature:	
2	7.9 m	.2			24	
3		.3			25	
4	measurements	.4			26 Dissolved Oxygen	
5	___ m	(.5)			.	
6	apart	.5			. 7.6	~~ppm~~ mg/L
7		.5			. ___	%
8		.5			n	
9		.4				
10		.2				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 5/18/07

Organization: BWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 3

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect 1	wetted width	.1 (.3)			1 Channel Feature:	
2	7.8 m	.2			2	
3		.2			3	
4	measurements	.2			4 Dissolved Oxygen	
5	___ m	(.3)			5	
6	apart	.3			6 7.3	ppm mg/L
7		.3			7 ___	%
8		.3			8	
9		.3			9	
10		.2			10	
					11	
Transect 2	wetted width	.1 (0.5)			12 Channel Feature:	
2	4.2 m	.1			13	
3		.2			14	
4	measurements	.2			15 Dissolved Oxygen:	
5	___ m	(.2)			16	
6	apart	.2			17 7.5	ppm mg/L
7		.2			18 ___	%
8		.2			19	
9		.1			20	
10		< .1			21	
					22	
Transect 3	wetted width				23 Channel Feature:	
2	___ m				24	
3					25	
4	measurements				26 Dissolved Oxygen	
5	___ m				.	
6	apart				. ___	ppm
7					. ___	%
8					n	
9						
10						

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [signature] **Date:** 5/18/07

Organization: BWR CORP. Position: ENV. SCI.

Mulberry Cr.

WBID# 1305
Site# 4

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

Date & Time: 5/25/07 0910	Site Location Description (e.g., road crossing): Bridge near lower end on Cty Rd 1002
Personnel (Data Collectors): MG / JS	
Current Weather Conditions: Cloudy Cool	Facility Name: Amsterdam WWTF, Amwest WWTF
Weather Conditions for Past 10 days: Sunny, Warm / Drizzle	Permit Number: MO0125091, MO0128767

Drought Conditions?: No drought ☒; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 38.23940 N Y: 0945407 6 W (at bridge)

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± _____ Feet or ± _____ Meters	± _____ Feet or ± _____ Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
51		50			

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* when conducting interviews.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☒ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☒ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments:

% CHANNEL FEATURES
RUN - 100%
RIFFLE - —
POOL - —

*** Page Two – Data Sheet B for WBID #** 1305 : SITE #4
Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☒ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Substrate*: (These values should add up to 100%.)

% Cobble	.05 % Gravel	% Sand	% Silt	95 % Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

None

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: Brown
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☒ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach any additional comments () to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: _____ Date of Survey: 5/18/07

Organization: BWR CORP. Position: ENV. SCI.

Mulberry Cr.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 4

	Distance from Stream edge	Depth m	Rank		Assigned Rank	Sorted depth
Transect A 1	wetted width	0.1			1 Channel Feature:	
2	8.6 m	0.2			2	run
3		0.3			3	
4	measurements	0.5			4 Dissolved Oxygen	
5	0.8 m	0.5			5	
6	apart	0.7	6.4 ppm		6 6.4 ppm	
7		0.6			7 ___ %	
8		0.5			8	
9		0.4			9	
10		0.3			10	
					11	
Transect B 1	wetted width	0.1			12 Channel Feature:	
2	9.9 m	0.3			13	run
3		0.4			14	
4	measurements	0.7			15 Dissolved Oxygen:	
5	1.0 m	0.7	6.3 ppm		16	
6	apart	0.5			17 6.3 ppm	
7		0.3			18 ___ %	
8		0.2			19	
9		0.1			20	
10		>0.1			21	
					22	
Transect C 1	wetted width	0.1			23 Channel Feature:	
2	10.0 m	0.4			24	run
3		0.6			25	
4	measurements	0.8			26 Dissolved Oxygen	
5	1.0 m	0.8			.	
6	apart	0.8	6.4 ppm		. 6.4 ppm	
7		0.7			. ___ %	
8		0.4			n	
9		0.3				
10		0.1				

solid mud bottom

18.7°C

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Alex Bell **Date:** 5/18/07

Organization: BWR CORP. **Position:** ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 4

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D	1	wetted width	0.1			1 Channel Feature:	
	2	10.6 m	0.3			2	run
	3		0.6			3	
	4	measurements	0.8			4 Dissolved Oxygen	
	5	1.0 m	0.8	6.2 ppm		5	
	6	apart	0.8			6 6.2 ppm	
softer mud	7		0.7			7	
	8		0.6			8	
	9		0.4			9	
	10		0.1			10	
						11	
Transect E	1	wetted width	0.1			12 Channel Feature:	
	2	11.4 m	0.4			13	
	3		0.6			14	
	4	measurements	0.7			15 Dissolved Oxygen:	
"	5	1.1 m	0.7	6.4 ppm		16	
	6	apart	0.8			17 6.4 ppm	
	7		0.8			18	
bend	8		0.6			19	
	9		0.4			20	
	10		0.1			21	
						22	
Transect F	1	wetted width	0.2			23 Channel Feature:	
	2	14.5 m	0.6			24	
	3		0.8			25	
soft mud	4	measurements	0.9			26 Dissolved Oxygen	
	5	1.5 m	0.8	6.2 ppm		.	
	6	apart	0.7			. 6.2 ppm	
	7		0.6			.	
	8		0.5			n	
	9		0.3				
	10		0.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 5/18/07

Organization: BLWR CORP. **Position:** ENV. SCI.

...ta Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 4

Start at Right

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	0.1				
2	7.7 m	0.3			1 Channel Feature:	
3		0.3			2	run
4	measurements	0.5			3	
5	0.7 m	0.7	6.6		4 Dissolved Oxygen	
6	apart	0.8			5	
7		0.8			6 6.6	ppm
8		0.6			7	%
9		0.4			8	
10		0.2			9	
					10	
Transect H 1	wetted width	0.2			11	
2	8.5 m	0.6			12 Channel Feature:	
3		0.9			13	run
4	measurements	0.9			14	
5	0.8 m	0.8			15 Dissolved Oxygen:	
6	apart	0.9	6.7 ppm		16	
7		0.8			17 6.7	ppm
8		0.6			18	%
9		0.4			19	
10		0.1			20	
					21	
Transect I 1	wetted width	0.1			22	
2	9.0 m	0.4			23 Channel Feature:	
3		0.3			24	
4	measurements	0.6			25	
5	0.9 m	0.7			26 Dissolved Oxygen	
6	apart	0.7			.	
7		0.7	6.7 ppm		. 6.7	ppm
8		0.6			.	%
9		0.4			n	
10		0.4				

at constriction of log/silt jam on cut bank

debris jam this side

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 5/18/07

Organization: BWR CORP. **Position:** ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 4

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect 1	1 wetted width	0.1			1 Channel Feature:	
	2 9.5 m	0.4			2	
	3	0.4			3	
	4 measurements	0.5			4 Dissolved Oxygen	
	5 0.9 m	0.6			5	
	6 apart	0.6	6.7 ppm		6 6.7 ppm	
	7	0.5			7 %	
	8	0.4			8	
	9	0.4			9	
	10	0.2			10	
					11	
Transect 2	1 wetted width	0.1			12 Channel Feature:	
	2 10.6 m	0.3			13	
	3	0.4			14	
	4 measurements	0.4			15 Dissolved Oxygen:	
	5 1.0 m	0.7	6.7		16	
	6 apart	0.6			17 6.7 ppm	
	7	0.5			18 %	
	8	0.4			19	
	9	0.2			20	
	10	0.1			21	
					22	
Transect	1 wetted width				23 Channel Feature:	
	2 m				24	
	3				25	
	4 measurements				26 Dissolved Oxygen	
	5 m				.	
	6 apart				. ppm	
	7				. %	
	8				n	
	9					
	10					

from mud bottom

Photos DS-50 DS-51

X 094.53856 Y 38.23805 at upstream end

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 5/18/07

Organization: BWR CORP. **Position:** ENV. SCI.

WBID# 1305
Site# 5

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

Date & Time: 5/25/07 0945	Site Location Description (e.g., road crossing): below bridge (at Site 4) - County Road 100
Personnel (Data Collectors): MG / JS	
Current Weather Conditions: cloudy mild	Facility Name: Amsterdam WWTF, Amoret WWTF
Weather Conditions for Past 10 days: sunny + clouds	Permit Number: MO0125091, MO0128767

Drought Conditions?: No drought ☒; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 094.53884 Y: 38.23835

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± _____ Feet or ± _____ Meters	± _____ Feet or ± _____ Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
52		53			

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* when conducting interviews.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☒ Fence	☐ Steep slopes	☐ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☐ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments:

% CHANNEL FEATURES
RUN - 100%
RIFFLE - 0%
POOL - 0%

*** Page Two – Data Sheet B for WBID # 1305 : SITE # 5**
Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☒ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☒ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN	200M	10M			
POOL					

Substrate*: (These values should add up to 100%.)

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
0	5	0	0	95	0

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

NONE OBSERVED

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: Turbid Brown
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☒ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach any additional comments () to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: [signature] Date of Survey: 5/25/06

Organization: BWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 5

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 1	wetted width	0.1			1 Channel Feature:	
2	9.5 m	0.2			2	run
3		0.3			3	
4	measurements	0.5			4 Dissolved Oxygen	
5	0.9 m	0.5			5	
6	apart	0.5	6.9 ppm		6 6.9 ppm	
7		0.5			7 %	
8		0.4.			8	
9		0.3			9	
10		0.1			10	
					11	
Transect B 1	wetted width	<0.1			12 Channel Feature:	
2	9.1 m	0.3			13	run
3		0.4			14	
4	measurements	0.4			15 Dissolved Oxygen:	
5	0.9 m	0.4			16	
6	apart	0.4	6.9 ppm		17 6.9 ppm	
7		0.4.			18 %	
8		0.4			19	
9		0.3			20	
10		0.1			21	
					22	
Transect C 1	wetted width	<0.1			23 Channel Feature:	
2	7.9 m	0.2			24	
3		0.3			25	
4	measurements	0.4			26 Dissolved Oxygen	
5	0.7 m	0.5	6.9 ppm		.	
6	apart	0.4			. 6.9 ppm	
7		0.4.			. %	
8		0.3			n	
9		0.3				
10		0.1				

Start at Right 8.6°C mud/ firm mud

softer mud

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [signature] **Date:** 5/25/07

Organization: BWR Corp. **Position:** Env. Scl.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

all runs wide meanders

WBID # 1305 Site # 5

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D 1	wetted width	< 0.1			1 Channel Feature:	
2	8.9 m	0.1			2	run
3		0.2			3	
4	measurements	0.3			4 Dissolved Oxygen	
5	0.8 m	0.3	6.9 ppm		5	
6	apart	0.3			6 6.9	ppm
7		0.3			7	%
8		0.4			8	
9		0.3			9	
10		0.1			10	
					11	
Transect E 1	wetted width	< 0.1			12 Channel Feature:	
2	8.6 m	0.1			13	run
3		0.2			14	
4	measurements	0.3			15 Dissolved Oxygen:	
5	0.8 m	0.4			16	
6	apart	0.4	6.9 ppm		17 6.9	ppm
7		0.3			18	%
8		0.4			19	
9		0.3			20	
10		0.1			21	
					22	
Transect F 1	wetted width	< 0.1			23 Channel Feature:	
2	9.9 m	0.2			24	run
3		0.3			25	
4	measurements	0.4			26 Dissolved Oxygen	
5	m	0.5			.	
6	apart	0.5	7.0 ppm		. 7.0	ppm
7		0.4			.	%
8		0.4			n	
9		0.2				
10		0.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 5/25/07

Organization: BWR CORP. **Position:** ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 5

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 1	wetted width	0.1			1 Channel Feature:	
2	9.4 m	0.4			2	run
3		0.5			3	
4	measurements	0.5			4 Dissolved Oxygen	
5	0.9 m	0.6			5	
6	apart	0.6	7.1 ppm		6 7.1 ppm	
7		0.6			7	%
8		0.5			8	
9		0.4			9	
10		0.1			10	
					11	
Transect H 1	wetted width	0.1			12 Channel Feature:	
2	9.9 m	0.6			13	
3		0.8			14	run
4	measurements	0.9	7.1 ppm		15 Dissolved Oxygen:	
5	1.0 m	0.8			16	
6	apart	0.8			17 7.1 ppm	
7		0.6			18	%
9		0.6			19	
9		0.3			20	
10		0.1			21	
					22	
Transect I 1	wetted width	0.2			23 Channel Feature:	
2	8.1 m	1.1			24	
3		1.1			25	run
4	measurements	1.0			26 Dissolved Oxygen	
5	0.8 m	0.9			.	
6	apart	0.8	7.1 ppm		. 7.1 ppm	
7		0.8			.	%
8		0.8			n	
9 soft mud		0.4				
10		0.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 5/25/07

Organization: BWR CORP. **Position:** ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

WBID # 1305 Site # 5

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect 1	1 wetted width	0.1			1 Channel Feature:	
	2 7.7 m	0.3			2	run
	3	0.4			3	
	4 measurements	0.3			4 Dissolved Oxygen	
	5 0.7 m	0.4	7.2 ppm		5	
	6 apart	0.4			6 7.2 ppm	
	7	0.4			7 ____ %	
	8	0.3			8	
	9	0.2			9	
	10	0.1			10	
					11	
Transect 2	1 wetted width	0.1			12 Channel Feature:	
	2 8.4 m	0.3			13	run
30%	3	0.4			14	
40%	4 measurements	0.3			15 Dissolved Oxygen:	
Gravel	5 0.8 m	0.4	7.3 ppm		16	
	6 apart	0.4			17 7.3 ppm	
	7	0.4			18 ____ %	
	8	0.3			19	
	9	0.2			20	
	10	0.1			21	
					22	
Transect 3	1 wetted width				23 Channel Feature:	
	2 ____ m				24	
	3				25	
	4 measurements				26 Dissolved Oxygen	
	5 ____ m				.	
	6 apart				. ____ ppm	
	7				. ____ %	
	8				n	
	9					
	10					

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth t the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 5/25/07

Organization: BWR corp. **Position:** ENV. SCI.

WBID# 1305
Site# 6

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(must be completed for each site)

Date & Time: 6/25/07 1000	Site Location Description (e.g., road crossing): BRIDGE CROSSING @ CR 4502
Personnel (Data Collectors): BARTLETT & CASEY	
Current Weather Conditions: SUNNY ~75°	Facility Name: AMSTERDAM WWTF AMOREY WWTF
Weather Conditions for Past 10 days: FAIR	Permit Number: MO 0125991 MO 0129767
Drought Conditions?: No drought ☒; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 38.79062 Y: 094.56973

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± _____ Feet or ± _____ Meters	± _____ Feet or ± _____ Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1305-3,4	TRAN J-K	1305-1,2	TRAN B-A		

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* when conducting interviews.)

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☒ None of the above	☐ Other:

Comments:

Indications of Human Use*: (attach photos)

☒ Roads	☐ Rope swings	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Camping Sites		☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Other:

Comments: CR 4502

CHANNEL FEATURE %
RUN: 70 RIFFLE: 20
POOL: 10

*** Page Two – Data Sheet B for WBID #** 1305 : #6

Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Substrate*: (These values should add up to 100%.)

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
75	15	5	5		

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

CONSIDERABLE ALGAL GROWTH ON COBBLE SUBSTRATE; SOME MACROPHYTE GROWTH ALONG BANKS.

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☒ Clear	☐ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☒ Solids	☐ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☒ Foam	☐ None	☐ Other:

Comments: Please attach any additional comments () to this form.

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: _____ Date of Survey: 6/25/07

Organization: BWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

1305 #6

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
TA 1	WETTED WIDTH	<0.1			1 CHANNEL FEATURE:	
2	6.2	0.1			2 RUN	
3		0.2			3	
4	MEASUREMENTS	0.1			4 DISSOLVED OXYGEN:	
5	0.6 m	0.1			5	
6	APART	0.1			6 5.09	ppm
7		0.1			7	
8		0.1			8	
9		0.2			9	
10		0.2			10	
					11	
TB 1	WETTED WIDTH	<0.1			12 CHANNEL FEATURE:	
2	9.0	0.1			13 RUN	
3		0.1			14	
4	MEASUREMENTS	0.1			15 DISSOLVED OXYGEN:	
5	0.90 m	0.1			16	
6	APART	<0.1			17 5.53	ppm
7		<0.1			18	
8		<0.1			19	
9		0.1			20	
10		<0.1			21	
					22 CHANNEL FEATURE:	
TC 1	WETTED WIDTH	<0.1			23 RUN	
2	7.0	0.1			24	
3		0.2			25 DISSOLVED OXYGEN:	
4	MEASUREMENTS	0.1			26	
5	0.70 m	0.2			. 5.86	ppm
6	APART	0.1			.	
7		0.2			.	
8		0.2			n	
9		0.1				
10		<0.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 6/25/07

Organization: BWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

1305 #6

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
1	WETTED WIDTH	<0.1			1 CHANNEL	FEATURE:
2	6.5	0.1			2 RUN	
3		0.1			3	
4	MEASUREMENTS	0.1			4 DISSOLVED	OXYGEN:
5	0.65 m	0.2			5	
6	APART	0.2			6 6.01	ppm
7		0.2			7	
8		0.2			8	
9		0.2			9	
10		<0.1			10	
					11 CHANNEL	FEATURE:
1	WETTED WIDTH	<0.1			12 RUN	RIFFLE
2	5.0	0.1			13	
3		0.1			14 DISSOLVED	OXYGEN:
4	MEASUREMENTS	0.1			15	
5	0.50 m	0.1			16 6.24	ppm
6	APART	0.1			17	
7		0.1			18	
8		0.1			19	
9		0.1			20	
10		<0.1			21	
					22 CHANNEL	FEATURE:
1	WETTED WIDTH	<0.1			23 RUN	
2	9.8	0.1			24	
3		0.3			25	
4	MEASUREMENTS	0.3			26 DISSOLVED	OXYGEN:
5	0.98 m	0.5			.	
6	APART	0.5			. 6.32	ppm
7		0.5			.	
8		0.5			n	
9		0.4				
10		<0.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 6/25/07

Organization: BWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

1305 #6

		Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
T_G	1	WETTED WIDTH	<0.1			1 CHANNEL FEATURE:	
	2	7.5	0.1			2 RIFFLE	
	3		0.1			3	
	4	MEASUREMENTS	0.2			4 DISSOLVED OXYGEN:	
	5	0.75 m	0.1			5	
	6	APART	0.2			6 6.73	ppm
	7		0.2			7	
	8		0.2			8	
	9		0.1			9	
	10		<0.1			10	
						11	
T_H	1	WETTED WIDTH	0.1			12 CHANNEL FEATURE:	
	2	5.5	0.2			13 RUN	
	3		0.4			14	
	4	MEASUREMENTS	0.5			15 DISSOLVED OXYGEN:	
	5	0.55 m	0.4			16	
	6	APART	0.3			17 6.46	ppm
	7		0.3			18	
	8		0.2			19	
	9		0.2			20	
	10		0.1			21	
						22	
T_I	1	WETTED WIDTH	<0.1			23 CHANNEL FEATURE:	
	2	13.0	0.3			24 POOL	
	3		0.5			25	
	4		0.5			26 DISSOLVED OXYGEN:	
	5	MEASUREMENTS	0.6			.	
	6	1.30 m	0.5			. 6.54	ppm
	7	APART	0.4			.	
	8		0.3			n	
	9		0.4				
	10		0.1				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
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Signed: _____ **Date:** 6/25/07

Organization: BWR CORP. Position: ENV. SCI.

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

1305 #6

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
TJ 1	WETTED WIDTH	<0.1			1 CHANNEL FEATURE:	
2	6.5	0.2			2 RUN	
3		0.3			3	
4	MEASUREMENTS	0.2			4 DISSOLVED OXYGEN:	
5	0.65 m	0.4			5	
6	APART	0.4			6 6.62	ppm
7		0.4			7	
8		0.4			8	
9		0.3			9	
10		<0.1			10	
					11	
1	WETTED WIDTH	0.1			12 CHANNEL FEATURE:	
2	4.2	0.2			13 RUN	
3		0.2			14	
TK 4	MEASUREMENTS	0.3			15 DISSOLVED OXYGEN:	
5	0.47 m	0.2			16	
6	APART	0.2			17 6.55	ppm
7		0.2			18	
8		0.1			19	
9		0.1			20	
10		<0.1			21	
					22	
					23	
					24	
					25	
					26	
					.	
					.	
					.	
					n	

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 6/25/07

Organization: BWR CORP. Position: ENV. SCI.

Upstream (Site 1) of Mulberry Creek.

Upstream (Site 1) of Mulberry Creek.

Downstream (Site 1) of Mulberry Creek.

Upstream (Site 2) of Mulberry Creek.

Downstream (Site 2) of Mulberry Creek.

Upstream (Site 3) of Mulberry Creek.

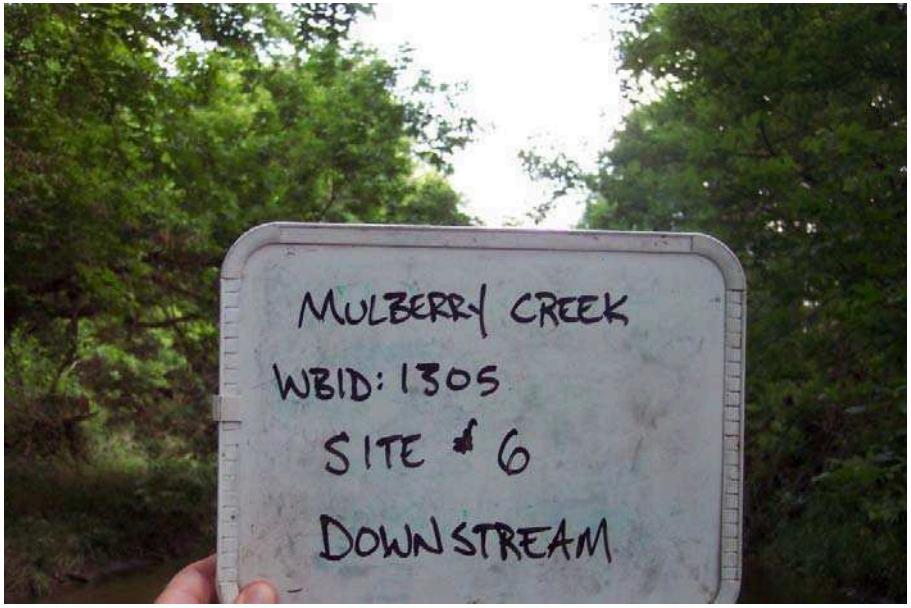
Downstream (Site 3) of Mulberry Creek.

Upstream (Site 4) of Mulberry Creek

Downstream (Site 4) of Mulberry Creek

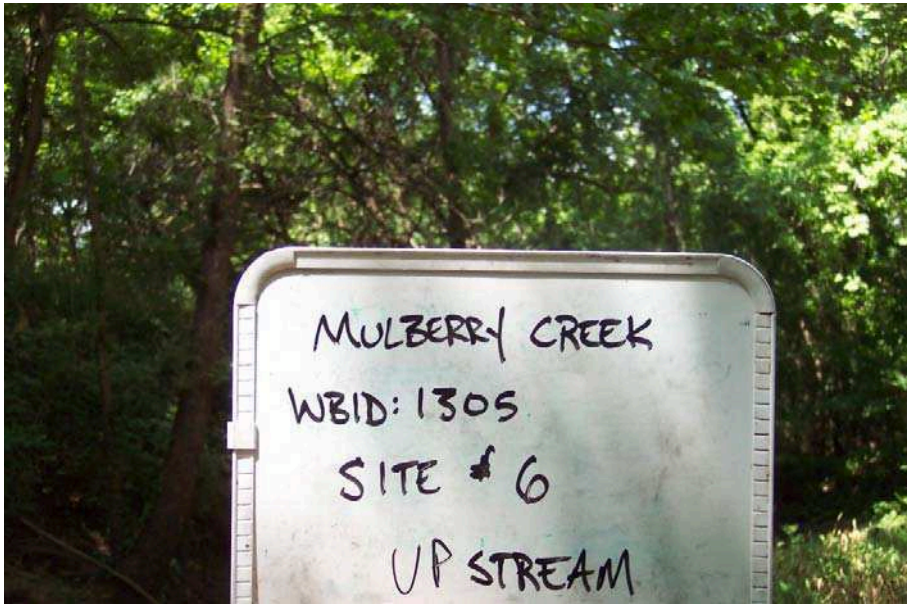
Upstream (Site 5) of Mulberry Creek

Downstream (Site 5) of Mulberry Creek



Downstream (Site 6) of Mulberry Creek

Downstream (Site 6) of Mulberry Creek



Upstream (Site 6) of Mulberry Creek

Upstream (Site 6) of Mulberry Creek

WBID: 1305, MULBERRY CREEK.

THE UPPER REACH OF MULBERRY CREEK, FROM CR 450Z NORTH NEARLY TO HWY J IS MOSTLY IN PROPERTY THAT IS MANAGED/OWNED BY THE AMERICAN WILDLIFE ASSOCIATION. WHILE OUR MAPS SHOWED MANY ROADS IN THE AREA, WE WERE UNABLE TO LOCATE THEM IN THE FIELD (MAY HAVE BEEN UNUSED FOR YEARS, OVERGROWN ETC.) ONE ROAD IN PARTICULAR (RUNS PARALLEL TO HWY Y ON THE EAST) WAS GATED AT THE ENTRANCES FROM CR 450Z AND HWY Y. THE POSTINGS ON THE GATES READ 'NO TRESPASSING' 'AWA PROPERTY' ETC. THOUGH WE WERE UNABLE TO ACCESS THE CREEK VIA THIS ROAD, WE WERE ABLE TO COMPLETE A SITE FROM THE BRIDGE CROSSING AT CR 450Z. WE THEN DROVE UP HWY Y TO LOCATE THE CREEK BUT WERE UNSUCCESSFUL. (MAY HAVE BEEN DRY). NONETHELESS, THE PROPERTY ALONG HWY Y WAS BOUND BY BARBED-WIRE FENCES & NO HOUSES WERE NEARBY.

11501 S. of 52
1 place east side

Rising 3 into Creek in around Propane tank See tracks thr hay field

Field Data Sheet for Recreational Use Stream Survey

Data Sheet D—Recreational Use Interview

Stream Name MULBERRY CREEK ***(WBID #*** 1305 ***)***

I. Introduction

Date & Time (include AM or PM): 11:03 Am 5-12-07

Interviewed: ☒ In person ☐ By phone ☐ By mail
(NOTE: If you are an Interviewee filling out this form to mail back to DNR, proceed to Question #1.)

Interviewee selected because (e.g., house next to stream; standing by stream, etc.) OWN PROPERTY ADJACENT TO STREAM

Interviewer introduction to Interviewee: "My name is ______, I work for __*(name of your employer)*____, and I am collecting information on how people use __*(name of the stream)*____."

ASK:

1.) Are you willing to respond to a survey about this stream? (It will just take a few minutes.)
☒ Yes ☐ No If yes, list contact information for the interviewee below:
Legal name: DARWIN HORMANN SR.
Current mailing address: RR 1, BOX 284, AMORET, MO 64722
Daytime phone number: (660) 925-3375
E-mail address (optional):

2.a.) Do you live in this area? ☒ Yes ☐ No
If yes, how many years? 17 years

2.b.) If you don't live nearby, are you still familiar with this stream? ☐ Yes ☐ No
If yes, how many years?
If no, thank the individual for taking the time to talk to you and conclude the interview.

3.) Are you familiar with this particular stretch of the stream? (show them the map, pointing out local landmarks such as roads, bridges, property lines) ☐ Yes ☐ No
If yes, proceed to "II. Personal Use?".
If no, proceed to Section V.

II. Personal Use?

1.) Have you or your family personally used the stream for recreation since November 28, 1975?
☐ Yes ☒ No
If yes, proceed to #3.
If no, proceed to #2.

2.a.) List reasons stream not used.

____

____

____

2.b.) Proceed to "III. Witnessed Use?".

3.) How do you use the stream?

Field Data Sheet for Recreational Use Stream Survey

Data Sheet D—Recreational Use Interview

Stream Name MULBERRY CREEK ***(WBID #*** 1305)

I. Introduction

Date & Time (include AM or PM): 10:30 AM 5-12-07

Interviewed: ☐ In person ☒ By phone ☐ By mail
(NOTE: If you are an Interviewee filling out this form to mail back to DNR, proceed to Question #1.)

Interviewee selected because (e.g., house next to stream; standing by stream, etc.) PROPERTY OWNER ADJACENT @ ACCESS POINT

Interviewer introduction to Interviewee: "My name is _____, I work for __(*name of your employer*)____, and I am collecting information on how people use __(*name of the stream*)____."
ASK:

1.) Are you willing to respond to a survey about this stream? (It will just take a few minutes.)
☐ Yes ☐ No If yes, list contact information for the interviewee below:
Legal name: CLAY LINDSAY
Current mailing address: RR1, BOX 351, AMORETT, MO 64722
Daytime phone number: (660) 925-3372
E-mail address (optional):

2.a.) Do you live in this area? ☒ Yes ☐ No
If yes, how many years? 80 yrs (been in family)

2.b.) If you don't live nearby, are you still familiar with this stream? ☐ Yes ☐ No
If yes, how many years?
If no, thank the individual for taking the time to talk to you and conclude the interview.

3.) Are you familiar with this particular stretch of the stream? (show them the map, pointing out local landmarks such as roads, bridges, property lines) ☒ Yes ☐ No
If yes, proceed to "II. Personal Use?".
If no, proceed to Section V.

II. Personal Use?

1.) Have you or your family personally used the stream for recreation since November 28, 1975?
☒ Yes ☐ No
If yes, proceed to #3.
If no, proceed to #2.

2.a.) List reasons stream not used.

_____

_____

_____

2.b.) Proceed to "III. Witnessed Use?".

3.) How do you use the stream? WATER CATTLE

Whole Body Contact Recreation			
Swimming ☐	Tubing ☐	Snorkeling/Skin Diving ☐	Water Skiing ☐

If Interviewee (or family) used the stream for WBCR since Nov. 28, 1975, ask:

4.a.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

4.b.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol).

Secondary Contact Recreation				
Fishing ☐	Wading ☐	Boating ☐	Trapping ☐	Other: ☐ List:

If Interviewee (or family) used the stream for SCR since Nov. 28, 1975, ask:

4.c.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?_____

4.d.) Where, exactly? Describe specific location *and mark on the map* (See map requirements in the protocol).

III. Witnessed Use?

1.) Have you observed others using this stream for recreation since Nov. 28, 1975? ☐ Yes ☒ No

If yes, proceed to #2.
If no, proceed to, "IV. Anecdotal Use?".

2.) What kinds of uses have you witnessed?

Whole Body Contact Recreation			
Swimming ☐	Tubing ☐	Snorkeling/Skin Diving ☐	Water Skiing ☐

If Interviewee witnessed WBCR use since Nov. 28, 1975, ask the following questions:

2.a.) When (e.g., year(s)?; season?; only after a rain?) and how often (times/year)?

People fish & boat the stream when the water is up.

Field Data Sheet for Recreational Use Stream Survey

Data Sheet D—Recreational Use Interview

Stream Name MULBERRY CREEK ***(WBID #*** 1305)

I. Introduction

Date & Time (include AM or PM): 10:14 AM 5/12

Interviewed: ☐ In person ☒ By phone ☐ By mail
(NOTE: If you are an Interviewee filling out this form to mail back to DNR, proceed to Question #1.)

Interviewee selected because (e.g., house next to stream; standing by stream, etc.) PROPERTY OWNER ADJACENT TO STREAM

Interviewer introduction to Interviewee: "My name is ✓, I work for (*name of your employer*), and I am collecting information on how people use (*name of the stream*)."

ASK:

1.) Are you willing to respond to a survey about this stream? (It will just take a few minutes.)
☒ Yes ☐ No If yes, list contact information for the interviewee below:
Legal name: TOMMY HUTCHINSON
Current mailing address: RR 1, Box 282, AMORET, MO 64722
Daytime phone number: (660) 925-3287
E-mail address (optional):

2.a.) Do you live in this area? ☒ Yes ☐ No
If yes, how many years? ?

2.b.) If you don't live nearby, are you still familiar with this stream? ☐ Yes ☐ No
If yes, how many years?
If no, thank the individual for taking the time to talk to you and conclude the interview.

3.) Are you familiar with this particular stretch of the stream? (show them the map, pointing out local landmarks such as roads, bridges, property lines) ☒ Yes ☐ No
If yes, proceed to "II. Personal Use?".
If no, proceed to Section V.

II. Personal Use?

1.) Have you or your family personally used the stream for recreation since November 28, 1975?
☒ Yes ☐ No
If yes, proceed to #3.
If no, proceed to #2.

2.a.) List reasons stream not used.

2.b.) Proceed to "III. Witnessed Use?".

3.) How do you use the stream? Kids Play & fish in STREAM ITS USUALLY too low for much